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AUSTRALIAN MILITARY FORCES CANBERRA PSYCHOLOGICAL RE--ETC F/6 5/11  
PRELIMINARY STUDY OF FACTORS FOR CONSIDERATION IN A MEDIUM DENS--ETC(U)  
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U.S. GOVERNMENT PRINTING OFFICE: 1967

AN 9L2771

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Research Note 10/81

AD A112216

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Preliminary Study of  
Factors For Consideration in a  
Medium Density Housing Development  
in the Enoggera Military Area

by

MAJ S.A. MARTYN  
DPSYCH-A


Nov 81

This Directorate of Psychology publication has been prepared by  
1 Psychological Research Unit and is authorised for issue by DPSYCH-A.

ISSN 0156-8817

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LTCOL M.J. ELEY  
Commanding Officer  
1 Psychological Research Unit  
Campbell Park Offices (CP4-6-13)  
CANBERRA ACT 2600

1981

## Abstract

This report, which takes the form of a discussion paper, resulted from a request for assistance in the conduct of a feasibility study into the provision of medium-density married quarters in the Enoggera area.

A number of factors which are considered important in the planning, design, construction and operation of a medium-density housing development are discussed. Some provisional recommendations are made for consideration during the feasibility study.

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The findings and views expressed in this Research Note are the result of the author's research studies and are not to be taken as the official opinion or policy of the Department of Defence (Army Office).

This report resulted from a request to DPSYCH-A by the Chief Engineer, LMD, for assistance in the conduct of a feasibility study into the provision of medium density married quarters in the Enoggera area. Particular reference was made in that request to social impact factors.

In any discussion of medium density housing (MDH) it is necessary to define what is meant by medium density (MD). Two of the most commonly used definitions refer to either the number of people per unit area or the number of dwelling units per unit area. The definition used here and implied in any use of the term MD will relate to the number of dwellings per unit area and will refer to some increase above the standard housing referred to in the next paragraph.

A number of studies (NCDC, 1975; NCDC, 1977) have suggested that generally, Australian families still believe in, and hope to fulfil, the Australian dream of owning their own home. 'Own home' is usually interpreted as meaning standard housing or a detached house on a single block of land. There seems to be an acceptance of a variety of higher density housing forms as an intermediate alternative, but the ultimate demand is for detached housing. While these desires regarding housing are related mainly to forms of housing for purchase and long term residence, it could be argued that for short-term housing (eg Service married quarters) some form of MDH is a viable alternative for some families.

In his study of the Puckapunyal area, Balmer (1978) touched on some MDH issues but it seems that even for Service housing the preference is still for a single house. During his investigation families were shown a folder containing photographs of various types of dwelling units (including row housing, block of flats, duplex units, self contained housing, two storey duplex units, town housing, cluster of duplex units and cluster of houses) and asked to indicate their preferences. Of first preferences, 90% of respondents indicated they would prefer a single house, of second preferences 53% indicated a cluster design and 35% of third preferences went to duplex style housing. Unfortunately there is no statistical breakdown indicating all types of housing. Respondents with families seemed to think that married couples with no children or older couples whose children had left home may prefer 'some type of apartment'. However when couples fitting these descriptions were asked, responses were usually emphatically negative. Balmer went on to recommend that for future residential development in the Puckapunyal area only a very small percentage of houses be other than detached houses - 'not less than 85% (to be) detached houses and not more than 8% (to be) duplex housing and a single cluster development'<sup>1</sup>.

The negative views expressed about apartment-type accommodation may be related to reasons why Army has had great difficulty in maintaining occupancy of married quarter flats. Some of the reasons outlined in various submissions<sup>2</sup> include:

- a. sharing of facilities with neighbours;
- b. fact that they are flats - problems for families with children;
- c. size of usable living area;
- d. tiny 'pocket handkerchief' sized back yards;
- e. pets not allowed;
- f. no secure play areas for children.

It is interesting to note that these criticisms also are expressed often within a variety of MDH settings. In fact it is very likely that, in terms of residential density, the flats in question fall into the category of MDH. Therefore it is factors such as these which will need to be given attention in the planning of future married quarter developments where forms of MDH are considered.

Outlined briefly below are a number of factors which, the writer considers, are important for the planning, design, construction and operation of such a development.

### Privacy

One of the major factors for consideration is the need for the provision of privacy. Increased housing density is often associated with the commensurate loss of privacy by potential residents and any perceived loss of privacy may be a large impediment to the success of an MD project. While individuals can regard privacy and privacy needs quite differently it appears that the following are most important when discussing privacy needs in relation to housing development or design:

- a. visual privacy from the street - demonstrated by the erection of visual barriers eg curtains, screens, walls, shrubs, trees etc to prevent visual intrusion into the house;
- b. visual and auditory privacy from neighbours - demonstrated by the use of curtains, outdoor buildings, trees etc. The fact that a detached house has open space on all sides often acts as a perceived noise buffer.

Residents of dwellings with party walls often complain of noise transmission from other dwellings and are often constrained themselves in noise making for the same reason;

- c. visual and auditory privacy within the house - demonstrated by the closing of doors, moving to another room etc.

It may be that the above needs are heightened for Service personnel because of the nature of the organisation to which they belong. The organisation determines where, with whom and under what conditions the individual will work and often also where, next to whom and under what conditions he/she will live. This is certainly so in married quarter areas. Perhaps because of these facts Service personnel and their families are concerned about privacy in the home environment and therefore may be more conscious than most of perceived invasion of their privacy.

Spaces outside the building are just as much living and utility spaces as those inside and there should be just as much attention paid to these areas. Private outdoor space is important to families both with and without children and where such space may be a necessity for families with children it is no less appreciated and used by couples without children. The following should be considered:

- a. outdoor areas should be easily accessible from the dwelling;
- b. privacy from the street and from neighbours, particularly 'backyard' areas, is important to be conducive to use;
- c. it is preferable there be some separation of outdoor service and living/display areas with separate entrances corresponding to the separate types of activities likely to be taking place.

It is recommended that:

- a. houses be sited and designed to minimise visual intrusion into the interior;
- b. if dwellings have party walls, sound proofing be incorporated into constructional aspects to prevent sound transmission;
- c. the internal design of houses be conducive to reasonable privacy for family members;

- d. all dwellings be provided with private outdoor space which may vary in size according to the likely presence of children;
- e. private outdoor areas particularly 'backyard' or 'outdoor living' areas be screened from public and neighbour view;
- f. private outdoor areas be easily accessible from the dwelling; and
- g. there be separate entrances leading to outdoor service and living/display areas.

#### Demographic Factors

It is important to have some knowledge of the population for whom housing is to be provided. At present there are few detailed or current statistics about the Service family. Demographic studies undertaken for the Bonegilla Development Project<sup>3</sup> indicated differences in basic statistics from what was previously generally assumed or accepted and the same possibility exists for the Enoggera/Brisbane area. As Enoggera is predominantly a Field Force area the demography of Enoggera-based Service families may well be quite different from that of predominantly Logistic or Training areas or even the Army as a whole. There is a need to examine these factors, the nature of which may greatly assist in assessing housing needs and preferences, provision/usage of community facilities, education needs etc. One constraining factor is that any housing development almost certainly will not be limited to families of Servicemen working in the Enoggera area. It will be difficult therefore to predict exactly what the housing requirement will be. However, assuming that the demography of the married quarter population at any given time is not atypical, extrapolation from that basis can be made.

A more difficult question involves the ratio of various Group Rent Scheme (GRS) level dwellings to be constructed. It is understood that there are some 1200 married quarters in the northern suburbs of Brisbane and that currently there are approximately 80-100 quarters in the Enoggera area<sup>4</sup>. Assuming an increase to a maximum of 200 with a new MDH development this represents an increase in the overall number of married quarters in the northern suburbs of only about 8%. In these terms the ratio of GRS levels probably does not matter very much. Other factors such as the requirement to have key personnel resident on base and rank levels where overall housing need is greatest perhaps should be taken into account first.



It is recommended that a demographic study of the Enoggera married quarter population be undertaken.

#### Siting/Design Aspects

In the context of this discussion there is a basic choice in types of houses between detached and conjoined dwellings. The former seems to be the more preferred type while the writer has seen some quite successful developments involving the latter. If Balmer's (1978) Puckapunyal survey can be used as a guide in the military setting, then duplex and cluster housing designs seem to be possible alternatives. Balmer's study was undertaken at the beginning of the very recent increase in popularity of the town house concept. It is likely that Service family attitudes to this form of housing have followed those of the general community and that this also could be a viable housing form. However, the opinions of potential users would be invaluable in either confirming or rejecting this. The present writer feels that the introduction of innovative design should proceed with some caution. One method of testing user acceptance is by the development of prototype housing for assessment by potential users.

The success or failure of MDH development or, in fact, any housing development, does not seem to depend necessarily on the physical aspects of design but on a number of other factors related to psychological and social needs, a discussion of which is attempted in this study.

Statements about the siting of housing is closely related to privacy aspects already discussed but care should be taken in the area of 'planned and unplanned' consequences. In attempting to site houses in such a way as to avoid one set of problems, another set may in fact be created but not manifested until some time after a development has been occupied. An example may illustrate this concept. The siting of houses to create separation of vehicular and pedestrian traffic (Radburn design) has been endorsed in a number of areas (mainly in Canberra that the writer is aware) and according to Balmer (1978) the residents of Puckapunyal supported this idea. While this concept solves a number of problems such as children playing in areas subject to vehicular traffic, there have been instances where this design has created problems and disagreements because of the lack of definitive boundaries between private and public property.

Siting and design of houses also should serve to enhance the general appearance of the area rather than contribute to an appearance which clearly labels the area as one thing or another - usually with negative connotations. It is clear that residents appreciate the following:

- a. some variety in housing designs; and
- b. a generally attractive appearance of the housing area.

It is essential that the amount of internal space of houses is preserved regardless of siting or external design factors. In this regard consideration should also be given to the types of activities likely to be undertaken in various rooms. Children's bedrooms, for example, are often the focal point not only for sleeping but also for social and play activities. A room which can accommodate a bed and little else fails in an important function.

It is recommended that:

- a. Service families' opinions regarding various types of housing designs be sought;
- b. based on the results of the recommendation at paragraph 13, a small number of prototype houses be built for comment by potential users;
- c. a variety of housing designs within broader housing types be utilised;
- d. siting and design take into account future general appearance of housing areas;
- e. there be no decrease in the amount of internal space provided; and
- f. internal design take into account the types of activities likely to be undertaken in various rooms.

### Landscaping

The landscaping of a residential area is often of very great importance in enhancing, or detracting from, the general appearance of that area. In private residential areas well landscaped gardens usually convey the impression of pride in ownership and nearly always add to the attractiveness of the area. In the past some Service married quarter areas have stood out because of their generally poor appearance. Usually because of the high turnover of families and often because of the large outdoor areas to be maintained by tenants there has been little incentive to improve one's own married quarter when little effort is being made by others in the area. One advantage of MDH is thus the often reduced

size of outdoors area to be cared for by tenants. This can be true particularly in cases where the Serviceman is regularly away from home leaving his family to maintain gardens and lawns etc.

An MDH development implies a certain amount of common land and this land should be carefully landscaped before families move into the area. Despite the likely reduction in size of outside areas to be maintained, initial establishment is often difficult and assistance should be given in this regard.

It is recommended that:

- a. common areas be carefully landscaped prior to families moving into the residential area; and
- b. the Service accept some responsibility in the landscaping/establishment of private outdoor areas.

#### Common Areas

Common areas can be problem areas. They require careful design and even more careful management once a housing development is occupied. Difficulties which can arise are as follows:

- a. such areas can become a no man's land unless boundaries between private and common land are clearly defined and unless responsibility for upkeep is clearly given and just as clearly understood by residents and those concerned with managing the area;
- b. common areas set aside for residents' recreation can have implications for privacy. Such areas should be largely free from public scrutiny;
- c. vandalism is a potential problem in common areas and unless such areas can be secured, solutions to this problem can be difficult;
- d. thoroughfares within residential areas are usually necessary to facilitate access to dwellings, however this raises questions of security where such thoroughfares can be used by non-residents as short cuts etc.

It is recommended that:

- a. boundaries between common and private land be clearly delineated;
- b. responsibilities for the care and maintenance of common and private areas be clearly defined and communicated;
- c. recreation areas for use by residents be screened as much as possible from public view; and
- d. thoroughfares be sited to avoid possible regular usage by non-residents.

#### Pets

As in the general community a proportion of Service families are likely to have or acquire a pet or pets for various reasons. In a situation where the Serviceman is likely to be away from home regularly or for extended periods of time his family may acquire a pet, usually a dog, for security reasons.

Pets are a potent source of conflict between neighbours because of animals' fouling of common areas and other residents' private property and because of unrestrained animals creating a general nuisance. Other than prevailing upon pet owners' consideration for other people this is a problem difficult to solve. The exclusion of pets from married quarters is not seen as an acceptable solution.

It is recommended that regulations be laid down for the control of pets outside private property areas.

#### Play Areas

The provision of play areas for children usually involves two types of outdoor areas:

- a. outdoor open space associated with the child's home; and
- b. areas formally designated as children's playgrounds.

In the former case and especially with regard to young children the safety of the play area is very important. This is usually synonymous with an enclosed area. Dwellings which are likely to house families with young children require enclosed open space for play areas and these areas must be viewable from day rooms of the house to enable indirect supervision by others or other members of the family.

The provision of formal playground areas is just as important but children of different ages seem to prefer different types of play areas. While swinging and climbing equipment appear to have attractions for all ages, primary school age children also express a desire for 'cubby houses'. There is also some evidence<sup>5</sup> that older children also appreciate some flexibility in the equipment provided in, or introduced to, play areas allowing them to plan and replan the area as their interests evolve. However, this can produce undesigned and unattractive results.

It is recommended that:

- a. outdoor areas associated with dwellings (ie outdoor private space) be enclosed;
- b. such areas be viewable from the day rooms of the house (ie from kitchen, dining and lounge rooms and family room);
- c. areas be set aside for children's play areas;
- d. such areas contain a variety of climbing and swinging equipment;
- e. 'cubby houses' be introduced to some playground areas; and
- f. there be flexibility regarding the introduction of play equipment by children.

#### Community Facilities

Given the current and proposed numbers of married quarters in the Enoggera area it is unlikely that the accompanying increase in population will have any dramatic social impact in the surrounding area. While an approximate maximum of 200 dwellings is envisaged the 200 families to occupy them will not move into the area at one time. With a gradual increase in population over say, five or six years, social impact will be minimal. The surrounding area is a well established one and community facilities such as public transport, shopping, health, leisure/recreation etc have grown over the years to cater for demand.

Education needs perhaps require separate consideration. While a gradual increase in population is unlikely to create problems in this area, results from the demographic study recommended in paragraph 13, will give an indication of the total increased requirement for education facilities. Based on this information, liaison with education authorities should avoid difficulties.

There is however, a need to examine the provision and location of facilities within, or close to, married quarter areas. Provision of such things as public telephones, easy access to existing public transport routes and shopping facilities is worthy of consideration.

Generally speaking, those whose need is greatest should be located closest to the required facility, eg families with student children require better access to schools than families without such children.

It is recommended that:

- a. when the estimated increase in education requirement is known, local education authorities be informed;
- b. public telephones be provided in married quarter areas;
- c. planning allow for easy access to public transport and shopping facilities; and
- d. consideration be given to the community facilities needs of families when married quarters are built and allocated.

#### Homogeneity vs Propinquity

There are two arguments regarding the relationship between homogeneity and propinquity. One view is that the design of a site plan, the location, positioning and building of houses and roads virtually decide the pattern of life and social contacts of those who will live in these houses. The other view is that people tend to choose friends on the basis of similarities in backgrounds, ages and socio-economic levels, values and interests. It appears that the two are related but that homogeneity of characteristics is more important than propinquity. Although propinquity brings neighbours into social contact, a certain degree of homogeneity is required to maintain this contact on a positive basis. If neighbours are too diverse, differences of behaviour or attitude may develop which can lead to coolness or even conflict. Such problems have been noted in overseas countries and Finighan (1979) quotes instances of problems between neighbours on a military base in the UK when husbands were not of equal rank.

This reasoning and evidence implies that there should be some segregation of housing by rank structure or GRS level. This may assist in the avoidance of possible conflicts associated with differences in life styles, values, socio-economic levels, pressures to perform etc. However, the development of 'officer patches' or 'OR patches' with connotations of better or worse standard of housing is to be avoided.

Bulmer (1978) arrived at similar conclusions but using a slightly different argument. He argues, and the present writer agrees that it is most undesirable to house members of the same unit in immediately adjacent dwellings.

It is recommended that:

- a. some segregation of GRS level houses should be achieved;
- b. the development of 'officer patches' or 'OR patches' of married quarters be avoided; and
- c. members from the same unit should not be housed in immediately adjacent dwellings.

#### Management

Many of the issues raised under various topic headings can be related to overall management policies and practices. Allocation of houses, maintenance of common areas, responsibilities of tenants and/or the Service in the care of different areas eg playgrounds, outdoor private space, are factors which should be given consideration. Particularly with regard to tenant and/or Service responsibilities and the boundaries of such responsibilities, there should be clear and unambiguous definition to avoid conflicts in intention, interest and practice.

It is recommended that:

- a. for all matters related to the management of a new housing development, clear and unambiguous policies and practices be outlined;
- b. where specific responsibilities rest with tenants and/or the Army, these responsibilities be clearly defined; and
- c. such responsibilities and their boundaries be communicated in clear and unambiguous terms both to tenants and relevant Service staff.

#### Conclusion

MDH as a concept for use as Service housing seems to be a viable alternative, however it is important that this form of housing be accepted by Service families. The Enoggera area is planned to be redeveloped over a period of time. This will give planners the opportunity to see how

readily the initial MD dwellings are accepted by the families living in them. No amount of planning can guarantee the success of a housing project but factors can be identified which are likely to enhance the likelihood of success. These factors also are related closely to the general concept of environmental quality. Presented at Annex A is a list of such factors which have been identified<sup>6</sup> as being thus related and which therefore can enhance for residents, the attractiveness of a residential area.

It is important to increase the attractiveness of MDH especially because of the number and high turnover of tenants. Because of such tenant turnover, there is likely to be considerable impact upon general Service families' opinions of any innovative housing style. When buildings unnecessarily inconvenience residents then general opinions are likely to decline. Therefore one of the main aims of such housing should be to attempt to facilitate the life style of families living there. The present preliminary study has attempted to outline most of the factors thought to be important in providing as favourable a residential environment as possible.



REFERENCE NOTES

1. Balmer, C.J. Puckapunyal: The needs of a community. Report to the Department of Construction. Ability Press, Regent, 1978. page 4.
2. HQ 2 MD 14-1N-99 dated 22 Dec 79.  
DGPO 156/79 (A4/1/252) dated 26 Jun 79.  
DGPO 266/79 (A4/1/251(3)) dated 25 Oct 79.  
DGPO 85/80 (A4/1/252(2)) dated 5 May 80.
3. Martyn, S.A., Brady, B. & Knox, S. Bonegilla Development Project Summary and Conclusions. Research Note 10/79, 1 Psych Research Unit, Canberra, 1978. page 12.
4. Figures provided by HQ 1 MD (AW).
5. Proshansky, H.M., Ittelson, W.H., & Rivlin, L.G. Environmental Psychology: People and their physical settings. Holt, Rinehart and Winston, New York, 1976. page 282.
6. National Capital Development Commission (NCDC) Canberra: A survey of the residential environment. Canberra, 1975.

REFERENCES

FINIGHAN, W.R. Privacy in Suburbia: A study in four Melbourne areas. CSIRO Division of Building Research, Melbourne, 1979.

National Capital Development Commission (NCDC) Resident satisfaction and design effectiveness of two-storey flats. Technical Paper No 10, Canberra, 1975.

National Capital Development Commission (NCDC) Social and psychological needs related to residential density and housing form. Technical Report No 13, Canberra, 1977.

FACTORS RELATED TO ENVIRONMENTAL QUALITY

1. Dwelling Unit

Privacy from the street  
Privacy from next door neighbours  
Size of rooms  
Internal arrangement of rooms  
Size in relation to needs  
Size of outdoor areas

3. Convenience to:

Shops  
Work  
City  
Primary School  
Secondary School  
Public Transport  
Churches  
Friends  
Relatives  
Clubs and Hotels  
Open countryside  
Parks, ovals, golf courses  
Entertainment  
Public phones and post boxes

2. Environment of Locality

Pedestrian safety  
Traffic noise  
Traffic congestion  
Tidiness of area  
Maintenance of buildings  
Maintenance of trees, shrubs, lawns  
Attractiveness of area

4. People Living in the Area

Getting on with neighbours  
Willingness to help each other  
Visiting  
Ease of making friends in the area  
Calling in neighbours homes  
Social level  
Pressure to keep up with neighbours

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